

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/581,041  
Source: TFWP  
Date Processed by STIC: 06/21/2006

# ***ENTERED***

**CRF Errors Edited by the STIC Systems Branch**

Serial Number: 10/581,041

CRF Edit Date: 06/21/2006  
Edited by: DA

\_\_\_ **Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line**

\_\_\_ **Corrected the SEQ ID NO. Sequence numbers edited were:**

\_\_\_\_\_

\_\_\_ **Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:**

\_\_\_\_\_

~~\_\_\_~~ **Deleted:** \_\_\_ **invalid beginning/end-of-file text ;** \_\_\_ **page numbers**

\_\_\_ **Inserted mandatory headings/numeric identifiers, specifically:**

\_\_\_\_\_

\_\_\_ **Moved responses to same line as heading/numeric identifier, specifically:**

\_\_\_\_\_

\_\_\_ **Other:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



IFWP

## RAW SEQUENCE LISTING

DATE: 06/21/2006

PATENT APPLICATION: US/10/581,041

TIME: 13:40:09

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06212006\J581041.raw

4 <110> APPLICANT: CHAE, Young-Jin  
 5 CHOI, Eun-Wha  
 7 <120> TITLE OF INVENTION: Recombinant peptide vector comprising the gene for treatment  
 for  
 8 autoimmune diseases  
 10 <130> FILE REFERENCE: OP04-1086  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/581,041  
 C--> 12 <141> CURRENT FILING DATE: 2006-05-30  
 12 <160> NUMBER OF SEQ ID NOS: 23  
 14 <170> SOFTWARE: KopatentIn 1.71.  
 16 <210> SEQ ID NO: 1  
 17 <211> LENGTH: 20  
 18 <212> TYPE: DNA  
 19 <213> ORGANISM: Artificial Sequence  
 21 <220> FEATURE:  
 22 <223> OTHER INFORMATION: primer  
 25 <400> SEQUENCE: 1  
 26 aagacctgaa cactgctcca 20  
 29 <210> SEQ ID NO: 2  
 30 <211> LENGTH: 20  
 31 <212> TYPE: DNA  
 32 <213> ORGANISM: Artificial Sequence  
 34 <220> FEATURE:  
 35 <223> OTHER INFORMATION: primer  
 38 <400> SEQUENCE: 2  
 39 ttgaaattgc ctcagctcct 20  
 42 <210> SEQ ID NO: 3  
 43 <211> LENGTH: 20  
 44 <212> TYPE: DNA  
 45 <213> ORGANISM: Artificial Sequence  
 47 <220> FEATURE:  
 48 <223> OTHER INFORMATION: primer  
 51 <400> SEQUENCE: 3  
 52 gataacagtc atccgtgtca 20  
 55 <210> SEQ ID NO: 4  
 56 <211> LENGTH: 20  
 57 <212> TYPE: DNA  
 58 <213> ORGANISM: Artificial Sequence  
 60 <220> FEATURE:  
 61 <223> OTHER INFORMATION: primer  
 64 <400> SEQUENCE: 4  
 65 gtagcagatg ccgtccacct 20  
 68 <210> SEQ ID NO: 5  
 69 <211> LENGTH: 66

## RAW SEQUENCE LISTING

DATE: 06/21/2006

PATENT APPLICATION: US/10/581,041

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Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06212006\J581041.raw

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70 <212> TYPE: DNA
71 <213> ORGANISM: Artificial Sequence
73 <220> FEATURE:
74 <223> OTHER INFORMATION: primer
77 <400> SEQUENCE: 5
78 ctcaagtctgg tccttgcaact cctgtttcca agcatggcga gcatgtccaa agggatgcat      60
80 gtggct . . . . .                               66
83 <210> SEQ ID NO: 6
84 <211> LENGTH: 27
85 <212> TYPE: DNA
86 <213> ORGANISM: Artificial Sequence
88 <220> FEATURE:
89 <223> OTHER INFORMATION: primer
92 <400> SEQUENCE: 6
93 gaattcgtca gaatctgggc aagggttc                                     27
96 <210> SEQ ID NO: 7
97 <211> LENGTH: 61
98 <212> TYPE: DNA
99 <213> ORGANISM: Artificial Sequence
101 <220> FEATURE:
102 <223> OTHER INFORMATION: primer
105 <400> SEQUENCE: 7
106 aagcttcacc atgggtgtac tgctcacaca gaggacgctg ctcaagtctgg tccttgcaact      60
108 c                                                                 61
111 <210> SEQ ID NO: 8
112 <211> LENGTH: 27
113 <212> TYPE: DNA
114 <213> ORGANISM: Artificial Sequence
116 <220> FEATURE:
117 <223> OTHER INFORMATION: primer
120 <400> SEQUENCE: 8
121 gaattcgata acagtcaccc gtctcat                                     27
124 <210> SEQ ID NO: 9
125 <211> LENGTH: 24
126 <212> TYPE: DNA
127 <213> ORGANISM: Artificial Sequence
129 <220> FEATURE:
130 <223> OTHER INFORMATION: primer
133 <400> SEQUENCE: 9
134 tctagagtag cagatgccgt ccac                                         24
137 <210> SEQ ID NO: 10
138 <211> LENGTH: 21
139 <212> TYPE: DNA
140 <213> ORGANISM: Artificial Sequence
142 <220> FEATURE:
143 <223> OTHER INFORMATION: primer
146 <400> SEQUENCE: 10
147 gccagatata cgcgttgaca t                                           21
150 <210> SEQ ID NO: 11

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## RAW SEQUENCE LISTING

DATE: 06/21/2006

PATENT APPLICATION: US/10/581,041

TIME: 13:40:09

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06212006\J581041.raw

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151 <211> LENGTH: 18
152 <212> TYPE: DNA
153 <213> ORGANISM: Artificial Sequence
155 <220> FEATURE:
156 <223> OTHER INFORMATION: primer
159 <400> SEQUENCE: 11
160 gcttaatgcg ccgctaca
163 <210> SEQ ID NO: 12
164 <211> LENGTH: 2213
165 <212> TYPE: DNA
166 <213> ORGANISM: Artificial Sequence
168 <220> FEATURE:
169 <223> OTHER INFORMATION: therapeutic gene
172 <400> SEQUENCE: 12
173 gttgacattg attattgact agttattaat agtaatcaat tacgggggtca ttagttcata 60
175 gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgcct ggctgaccgc 120
177 ccaacgaccc cgcgccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag 180
179 ggactttcca ttgacgtcaa tgggtggagt atttacggt aactgcccac ttggcagtac 240
181 atcaagtgtg tcatatgcca agtaccgtcc ctattgacgt caatgacggt aaatggcccc 300
183 cctggcatta tgcccagtac atgaccttat gggactttcc tacttggcag tacatctacg 360
185 tattagtcac cgctattacc atgggtgatg gggtttggca gtacatcaat gggcgtggat 420
187 agcggtttga ctacgggga tttccaagtc tccaccccat tgacgtcaat gggagtgtgt 480
189 tttggcacca aaatcaacgg gactttccaa aatgtcgtaa caactccgcc ccattgacgc 540
191 aaatgggcgg taggcgtgta cgggtggagg tctatataag cagagctctc tggctaacta 600
193 gagaaccac tgcttactgg cttatcgaaa ttaatacgac tcaactatagg gagacccaag 660
195 ctggctagcg tttaaactta agcttcacca tgggtgtact gctcacacag aggacgtgct 720
197 tcagtctggc ccttgcactc ctgtttccaa gcatggcgag catgtccaaa gggatgcatg 780
199 tggctcagcc tgcaagtggc ctggccagca gccgggggtg tgctagcttc gtgtgtgaat 840
201 atgggtcttc aggcaacgca gccgaggtcc gggtgacagt gctgcggcag gctggcagcc 900
203 agatgactga agtctgtgcc gcgacataca cagtggagga tgagtgggcc ttcttggatg 960
205 attctacctg cactggcacc tccagtggaa acaaagtga cctcaccatc caaggggtga 1020
207 gggccatgga cacggggctc tacatctgca aggtggagct catgtacca ccaccctact 1080
209 atgtaggcat gggaaatgga acccagattt atgtcatcga tctgaacct tgcccagatt 1140
211 ctgacgaatt cgataacagt catccgtctc atccatctcc ctcgccaat gagccccgcc 1200
213 tgtcactaca gaagccagcc ctcgaggatc tgcttttagg ctccaatgcc agcctcacat 1260
215 gcacactgag tggcctgaaa gacccaagg gtgccacct cacctggaac ccctccaaag 1320
217 ggaaggaacc catccagaag aatcctgagc gtgactcctg tggctgctac agtgtgtcca 1380
219 gtgtcctacc aggctgtgct gatccatgga accatgggga caccttctcc tgcacagcca 1440
221 cccaccctga atccaagagc ccgatcactg tcagcatcac caaaaccaca gagcacatcc 1500
223 cgcgccaggt ccacctgctg ccgccgccgt cggaagagct ggccctcaat gagctggtga 1560
225 cactgacgtg cttggtgagg ggcttcaaac caaaagatgt gctcgtacga tggctgcaag 1620
227 ggaccagga gctaccccaa gagaagtact tgacctggga gccctgaag gagcctgacc 1680
229 agaccaacat gtttgccgtg accagcatgc tgaggggtgac agccgaagac tgggaagcagg 1740
231 gggagaagtt ctctgcatg gtgggccacg aggctctgcc catgtccttc acccagaaga 1800
233 ccatcgaccg cctggcgggt aaaccacccc acgtcaacgt gtctgtggtc atggcagagg 1860
235 tggacggcat ctgctactaa tctagagggc ccgtttaaac ccgtgatca gcctcgactg 1920
237 tgccttctag ttgccagcca tctgttgttt gcccctcccc cgtgccttcc ttgaccctgg 1980
239 aaggtgccac tcccactgtc ctttccctaat aaaatgagga aattgcatcg cattgtctga 2040
241 gtaggtgtca ttctattctg ggggggtggg tggggcagga cagcaagggg gaggattggg 2100

```

## RAW SEQUENCE LISTING

DATE: 06/21/2006

PATENT APPLICATION: US/10/581,041

TIME: 13:40:10

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06212006\J581041.raw

```

243 aagacaatag caggcatgct ggggatgcgg tgggctctat ggcttctgag gcggaagaa      2160
245 ccagctgggg ctctaggggg tatccccacg cgccctgtag cggcgcatta agc          2213
248 <210> SEQ ID NO: 13
249 <211> LENGTH: 20
250 <212> TYPE: DNA
251 <213> ORGANISM: Artificial Sequence
253 <220> FEATURE:
254 <223> OTHER INFORMATION: primer
257 <400> SEQUENCE: 13
258 aagacctgaa caccgctccc                                         20
261 <210> SEQ ID NO: 14
262 <211> LENGTH: 21
263 <212> TYPE: DNA
264 <213> ORGANISM: Artificial Sequence
266 <220> FEATURE:
267 <223> OTHER INFORMATION: primer
270 <400> SEQUENCE: 14
271 gttagaattg cctcagctct t                                         21
274 <210> SEQ ID NO: 15
275 <211> LENGTH: 23
276 <212> TYPE: DNA
277 <213> ORGANISM: Artificial Sequence
279 <220> FEATURE:
280 <223> OTHER INFORMATION: primer
283 <400> SEQUENCE: 15
284 gagcccaaat cttgtgacaa aac                                         23
287 <210> SEQ ID NO: 16
288 <211> LENGTH: 20
289 <212> TYPE: DNA
290 <213> ORGANISM: Artificial Sequence
292 <220> FEATURE:
293 <223> OTHER INFORMATION: primer
296 <400> SEQUENCE: 16
297 agcatcctcg tgcgaccgcg                                         20
300 <210> SEQ ID NO: 17
301 <211> LENGTH: 65
302 <212> TYPE: DNA
303 <213> ORGANISM: Artificial Sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: primer
309 <400> SEQUENCE: 17
310 ctcagtctgg tccttgcaact cctgtttcca agcatggcga gcatggcaat gcacgtggcc      60
312 cagcc                                                         65
315 <210> SEQ ID NO: 18
316 <211> LENGTH: 66
317 <212> TYPE: DNA
318 <213> ORGANISM: Artificial Sequence
320 <220> FEATURE:
321 <223> OTHER INFORMATION: primer

```

## RAW SEQUENCE LISTING

DATE: 06/21/2006

PATENT APPLICATION: US/10/581,041

TIME: 13:40:10

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06212006\J581041.raw

```

324 <400> SEQUENCE: 18
325 gaattcgagc ccaaattcttc tgacaaaact cacacatccc caccgtcccc agcacctgaa      60
327 ctccctg      66
330 <210> SEQ ID NO: 19
331 <211> LENGTH: 31
332 <212> TYPE: DNA
333 <213> ORGANISM: Artificial Sequence
335 <220> FEATURE:
336 <223> OTHER INFORMATION: primer
339 <400> SEQUENCE: 19
340 tctagaagca tcctctgcg accgcgagag c      31
343 <210> SEQ ID NO: 20
344 <211> LENGTH: 2446
345 <212> TYPE: DNA
346 <213> ORGANISM: Artificial Sequence
348 <220> FEATURE:
349 <223> OTHER INFORMATION: therapeutic gene
352 <400> SEQUENCE: 20
353 gttgacattg attattgact agttatcaat aytaatcaat tacgggggtca ttagttcata      60
355 gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgctt ggctgaccgc      120
357 ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag      180
359 ggactttcca ttgacgtcaa tgggtggagt atttacggta aactgcccac ttggcagtac      240
361 atcaagtgta tcatatgccca agtacgcccc ctattgacgt caatgacggg aaatggcccc      300
363 cctggcatta tgcccagtac atgaccttat gggactttcc tacttggcag tacatctacg      360
365 tattagtcac cgctattacc atgggtgatgc ggttttggca gtacatcaat gggcgtggat      420
367 agcggtttga ctcacgggga tttccaagtc tccaccccat tgacgtcaat gggagtttgt      480
369 tttggcacca aaatcaacgg gactttccaa aatgtcgtaa caactccgcc ccattgacgc      540
371 aaatgggcgg taggcgtgta cgggtggagg tctatataag cagagctctc tggctaacta      600
373 gagaaccacac tgcttactgg cttatcgaaa ttaatacgac tcactatagg gagaccacag      660
375 ctggctagcg tttaaactta agcttcacca tgggtgtact gctcacacag aggacgctgc      720
377 tcagtctggg ccttgcactc ctgtttccaa gcatggcgag catggcaatg cacgtggccc      780
379 agcctgctgt ggtactggcc agcagccgag gcatcgccag ctttgtgtgt gagtatgcat      840
381 ctccaggcaa agccactgag gtccgggtga cagtgtctcg gcaggctgac agccagggtga      900
383 ctgaagtctg tgcggcaacc tacatgatgg ggaatgagtt gaccttccta gatgattcca      960
385 tctgcacggg cacctccagt ggaaatcaag tgaacctcac tatccaagga ctgagggcca      1020
387 tggacacggg actctacatc tgcaagggtg agctcatgta cccaccgcca tactacctgg      1080
389 gcataggcaa cggaaccacg atttatgtaa ttgatccaga accgtgcccc gattctgacg      1140
391 aattcgagcc caaatcttgt gacaaaactc acacatgccc accgtgcccc ggtaagccag      1200
393 cccaggcctc gccctccagc tcaaggcggg acagggtgcc tagagtagcc tgcacccagg      1260
395 gacaggcccc agccgggtgc tgacacgtcc acctccatct cttcctcagc acctgaactc      1320
397 ctgggggggac cgtcagtcct cctcttcccc ccaaaaccca aggacaccct catgatctcc      1380
399 cggacccctg aggtcacatg cgtgggtggtg gacgtgagcc acgaagaccc tgaggtcaag      1440
401 ttcaactggg acgtggacgg cgtggaggtg cataatgccca agacaaaagcc gcgggaggag      1500
403 cagtacaaca gcacgtaccg ggtggtcagc gtcctcaccg tcctgcacca ggactggctg      1560
405 aatggcaagg agtacaagtg caaggctctc aacaaagccc tcccagcccc catcgagaaa      1620
407 accatctcca aagccaaagg tgggacccgt ggggtgagag ggccacatgg acagaggccg      1680
409 gctcggccca ccctctgccc tgagagtacg cgctgtacca acctctgtcc tacagggcag      1740
411 ccccgagaac cacagggtga caccctgccc ccatccgggg atgagctgac caagaaccag      1800
413 gtcagcctga cctgctgggt caaaggcttc tatcccagcg acatcgccgt ggagtgggag      1860

```

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/581,041

DATE: 06/21/2006

TIME: 13:40:11

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\06212006\J581041.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date



## **Raw Sequence Listing before editing (for reference only)**



IFWP

## RAW SEQUENCE LISTING

DATE: 06/19/2006

PATENT APPLICATION: US/10/581,041

TIME: 11:22:13

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF4\06192006\J581041.raw

4 <110> APPLICANT: CHAE, Young-Jin  
 5 CHOI, Eun-Wha  
 7 <120> TITLE OF INVENTION: Recombinant peptide vector comprising the gene for treatment  
 for  
 8 autoimmune diseases  
 10 <130> FILE REFERENCE: OP04-1086  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/581,041  
 C--> 12 <141> CURRENT FILING DATE: 2006-05-30  
 12 <160> NUMBER OF SEQ ID NOS: 23  
 14 <170> SOFTWARE: KopatentIn 1.71

Does Not Comply  
 Corrected Diskette Needed ..

Cpg-1)

## ERRORED SEQUENCES

468 <210> SEQ ID NO: 23  
 469 <211> LENGTH: 16  
 470 <212> TYPE: DNA  
 471 <213> ORGANISM: Artificial Sequence  
 473 <220> FEATURE:  
 474 <223> OTHER INFORMATION: Linker-2 DNA  
 477 <400> SEQUENCE: 23  
 478 gattatgctg agtgat  
 E--> 481 11

16

11

deleted

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/581,041

DATE: 06/19/2006

TIME: 11:22:14

Input Set : A:\SEQUENCE LISTING.txt

Output Set: N:\CRF4\06192006\J581041.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:481 M:254 E: No. of Bases conflict, this line has no nucleotides.